

I Claim:

1. A test system for conducting a function test of a semiconductor element on a wafer, the element having terminal pads, the test system comprising:

a voltage source delivering an output voltage and providing a supply voltage of the element being tested;

a pin card having:

supply contact pins;

a resistance; and

a read contact pin connected to one of said supply contact pins through said resistance producing a high-impedance electrical read connection to a terminal pad of the element being tested;

said supply contact pins including two supply contact pins each connected to the voltage source for applying the supply voltage to the terminal pads of the element being tested; and

a regulator controlling the output voltage based upon an electrical potential of said read contact pin.

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2. The test system according to claim 1, wherein:

said pin card has a second read contact pin producing a high-impedance electrical read connection to another of the terminal pads of the element being tested; and

said regulator controlling the output voltage based upon an electrical potential of said read contact pin and an electrical potential of said second read contact pin.

3. The test system according to claim 2, including a second resistance, said second read contact pin connected to another of said supply contact pins through said second resistance.

4. A test system for conducting a function test of a semiconductor element on a wafer, the element having terminal pads, the test system comprising:

a voltage source delivering an output voltage and providing a supply voltage of the element being tested;

a pin card having:

supply contact pins;

a resistance; and

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a read contact pin connected to one of said supply contact pins through said resistance producing a high-impedance electrical read connection to a terminal pad of the element being tested;

said supply contact pins including two supply contact pins each connected to the voltage source for applying the supply voltage to the terminal pads of the element being tested; and

means for regulating the output voltage based upon an electrical potential of said read contact pin.

5. The test system according to claim 4, wherein:

said pin card has a second read contact pin producing a high-impedance electrical read connection to another of the terminal pads of the element being tested; and

said regulating means regulates the output voltage based upon an electrical potential of said read contact pin and an electrical potential of said second read contact pin.

6. The test system according to claim 5, including a second resistance, said second read contact pin connected to another of said supply contact pins through said second resistance.

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7. A method for conducting, with a test system, a function test of a semiconductor element on a wafer, which comprises:

defining a desired supply voltage of the semiconductor element;

applying a supply voltage from a voltage source through two supply contact pins of a pin card to corresponding terminal pads of the element being tested;

producing a high-impedance electrical read connection to a terminal pad of the element being tested by connecting a supply contact pin to a read contact pin of the pin card through a resistance;

determining a potential of the read contact pin relative to a reference potential; and

regulating an output voltage of the voltage source dependent upon the determined potential of the read contact pin to achieve an approximation of the desired supply voltage.

8. A method for conducting, with a test system, a function test of a semiconductor element on a wafer, which comprises:

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defining a desired supply voltage of the semiconductor element;

applying a supply voltage from a voltage source through two supply contact pins of a pin card to corresponding terminal pads of the element being tested;

producing a high-impedance electrical read connection to terminal pads of the element being tested by respectively connecting first and second supply contact pins to first and second read contact pins of the pin card through a respective resistance;

determining a potential of the first and second read contact pins relative to a reference potential; and

regulating the output voltage of the voltage source dependent upon the determined potentials to achieve an approximation of the desired supply voltage.

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